WHAT IS CLAIMED IS:

1	1. An architecture for integrating data between a plurality of software
2	applications in a factory environment comprising:
3	a factory system comprising:
4	a domain object superclass;
5	a plurality of first-level subclasses of the domain object superclass, an instantiation of
6	one of the plurality of first-level subclasses corresponding to a domain object,
7	the domain object representing an item in a factory; and
8	a service, the service providing an operation related to the domain object, the service
9	comprising at least one component, each of the at least one component being
.10	operable to perform the operation related to the domain object;
	and
1000	a domain application comprising:
	an implementation of one component of the at least one component of the service of
Action of the control	the factory system to perform the operation related to the domain object.

- 2. The architecture of claim 1, wherein the domain application is one of a group consisting of the following: a legacy system; and an integrated application.
- 3. The architecture of claim 1 wherein
 the domain application corresponds to an integrated application comprising:
 a second-level subclass of one first-level subclass of the plurality of first-level
 subclasses of the domain object superclass of the factory system, an
 instantiation of the second-level subclass corresponding to an application-

specific domain object;
and
the implementation of the one component corresponds to a method of the application-specific domain object, wherein the method is operable to perform the operation on the application-specific domain object, wherein the performing the operation on the application-specific domain object enables the domain object to communicate as if the

operation were performed on the domain object.

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1	4.	The architecture of claim 1 wherein
2	the domain a	pplication corresponds to a legacy system comprising:
3	a data	structure corresponding to the domain object;
4	and	
5	the implemen	ntation of the one component corresponds to an interface to the legacy system,
6	where	in the legacy system is operable to perform the operation on the data structure.
1	5.	The architecture of claim 1, wherein
2	the operation	comprises a plurality of operations.
1	6.	The architecture of claim 1, wherein
2	the service co	omprises a plurality of services.
	7.	The architecture of claim 1, wherein
173	each compon	ent of the at least one component of the service has a corresponding domain
Action of the control	applic	cation providing an implementation of the component.
	8.	The architecture of claim 1, wherein
*	the service in	cludes instructions for selecting a component of the at least one component to
	perfo	rm the operation, the selecting providing a selected component; and
And the second s	the selected of	component includes instructions to perform the operation.
i de des	9.	The architecture of claim 1, wherein
wing.	a component	of the at least one component is an interface to the domain application.
1	10.	The architecture of claim 9, wherein
2	a requesting	component of the at least one component includes instructions to use the
3	interf	ace to request the domain application to provide data to a receiving component
4	of the	at least one component; and
- 5	the receiving	component includes instructions to receive the data from the domain application
6	via th	ne interface.
1	11.	The architecture of claim 10 wherein
2	the receiving	component and the requesting component are the same.

1	12. The architecture of claim 10 wherein
2	the receiving component further includes instructions to perform the operation on the domain
3	object.
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1	13. The architecture of claim 1 further comprising:
2	a system manager for managing hardware and software in the factory.
1	14. A factory system for integrating data between a plurality of software
2	applications in a factory environment, one of the plurality of software applications
3	corresponding to a domain application, the factory system comprising:
4	a domain object superclass;
.5	a plurality of first-level subclasses of the domain object superclass, an instantiation of one of
tri Hiji	the first-level subclasses of the plurality of first-level subclasses corresponding to a
ij D	domain object, the domain object representing an item in a factory; and
Į.	a service, the service providing an operation related to the domain object, the service
[4] [4]	comprising at least one component, each of the at least one component corresponding
	to operable to perform the operation related to the domain object;
\$ 1 286	and wherein
	the domain application includes:
	an implementation of one component of the at least one component of the service of
	the factory system to perform the operation related to the domain object.
į.	15. A domain application for integrating data between a plurality of software
2	applications in a factory environment, one of the plurality of software applications
3	corresponding to a factory system, the factory system including: a domain object superclass;
4	a plurality of first-level subclasses of the domain object superclass, an instantiation of one of
5	the first-level subclasses corresponding to a domain object, the domain object representing an
6	item in a factory; and a service, the service providing an operation related to the domain
7	object using a component, the service comprising at least one component, each of the at least
8	one component being operable to perform the operation related to the domain object; the
9	domain application comprising:

factory system, wherein the component is operable to perform the operation related to

an implementation of one component of the at least one component of the service of the

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12	the domain object.	
1	16. A method for integrating data between a plurality of software applications in a	a
2	factory environment comprising:	
3	providing a domain object superclass in a first software application, the first software	
4	application corresponding to a factory system;	
5	providing a plurality of first-level subclasses of the domain object superclass;	
6	instantiating one subclass of the plurality of first-level subclasses to create a domain object,	
7	the domain object representing an item in a factory; and	
8	providing a service that provides an operation related to the domain object, the service	
9	comprising at least one component, each of the at least one component being operabl	e
10	to perform the operation;	
7 7 7 8 4 9	performing the operation related to the domain object using an implementation of one	
	component of the at least one component of the service, the implementation being	
	provided by a second software application, the second software application	
	corresponding to a domain application.	
V) []	17. The method of claim 16 further comprising:	
76	providing a second-level subclass of one first-level subclass of the plurality of first-level	
	subclasses in the domain application, the domain application being an integrated	
	application;	
any¶i andri	instantiating the second-level subclass to provide an application-specific domain object;	
ales Constant	implementing one component of the at least one component as a method of the application-	
7	specific domain object;	
8	performing the operation on the application-specific domain object using the method;	
9	and wherein	
10	the performing the operation enables the domain object to communicate as if the operation	
11	were performed on the domain object.	
1	18. The method of claim 16 further comprising:	
2	providing a data structure corresponding to the domain object in the domain application, the	
3	domain application being legacy system;	

implementing one component of the at least one component to serve as an interface to the

legacy system;

6	requesting th	e legacy system to perform the operation via the interface; and
7	performing the	he operation on the data structure.
1	19.	The method of claim 16 further comprising:
2	requesting th	e service to perform the operation;
3	selecting a se	elected component of the at least one component to perform the operation; and
4	performing ti	he operation using the selected component.
1	20.	The method of claim 16 further comprising:
2	requesting th	e domain application to provide data to a receiving component of the at least one
3	comp	onent; and
4	receiving the	data from the domain application by the receiving component.
	21.	A computer program product for integrating data between a plurality of
	software app	lications in a factory environment comprising:
j V	instructions	for providing a domain object superclass in a first software application, the first
	softw	vare application corresponding to a factory system;
(1	instructions	for providing a plurality of first-level subclasses of the domain object superclass;
ş	instructions	for instantiating one subclass of the plurality of first-level subclasses to create a
	doma	ain object, the domain object representing an item in a factory;
Str. Sinci duos Ambi silentificaci	instructions	for providing a service that provides an operation related to the domain object,
- - - - -	the se	ervice comprising at least one component, each of the at least one component
	being	g operable to perform the operation; and
1	instructions	for performing the operation related to the domain object using an
.2	imple	ementation of one component of the at least one component of the service, the
3	imple	ementation being provided by a second software application, the second software
4	appli	cation corresponding to a domain application;
5	and	
6	a computer-1	readable medium for storing the instructions for providing the domain object
7	supe	rclass, the instructions for providing the plurality of first-level subclasses, the
8	instr	actions for instantiating, the instructions for providing the service, and the
9	instr	actions for performing the operation.

22. The computer program product of claim 21 further comprising:

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2	instructions for providing a second-level subclass of one first-level subclass of the plurality of
3	first-level subclasses in the domain application, the domain application being an
4	integrated application;
5	instructions for instantiating the second-level subclass to provide an application-specific
6	domain object;
7	instructions for implementing one component of the at least one component as a method of
8	the application-specific domain object;
9	instructions for performing the operation on the application-specific domain object using the
10	method, wherein the performing the operation enables the domain object to
. 11	communicate as if the operation were performed on the domain object;
12	and wherein
13	the computer-readable medium further stores the instructions for providing the second-level
	subclass, the instructions for instantiation the second-level subclass; the instructions
	for implementing, and the instructions for performing the operation on the
And the state of t	application-specific domain object.
19 <u>1</u>	23. The computer program product of claim 21 further comprising:
	instructions for providing a data structure corresponding to the domain object in the domain
	application, the domain application being legacy system;
	instructions for implementing one component of the at least one component to serve as an
	interface to the legacy system;
	instructions for requesting the legacy system to perform the operation via the interface; and
in the state of th	instructions for performing the operation on the data structure;
8	and wherein
9	the computer-readable medium further stores the instructions for providing the data structure,
10	the instructions for implementing the component to serve as the interface, the
11	instructions for requesting, and the instructions for performing the operation on the
12	data structure.
1	24. The computer program product of claim 21 further comprising:
2	instructions for requesting the service to perform the operation;
3	instructions for selecting a selected component of the at least one component to perform the
4	operation; and
5	instructions for performing the operation using the selected component;

	and wherein	
the computer-readable medium further stores the instructions for requesting, the instructions		
	for selecting a selected component, and the instructions for performing the operation	
	using the selected component.	
	25. The computer program product of claim 21 further comprising:	
	instructions for requesting the domain application to provide data to a receiving component	
	of the at least one component; and	
	instructions for receiving the data from the domain application by the receiving component;	
	and wherein	
	the computer-readable medium further stores the instructions for requesting and the	
	instructions for receiving.	

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